



THOMAS G. NEWMAN,
EDITOR.

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He that Blows the Coals in quarrels
he has nothing to do with, has no right to
complain if the sparks fly in his face.

An Old House in California, which had
been abandoned to several swarms of bees,
yielded 900 pounds of honey of excellent
quality, so says an exchange.

Mr. J. M. Shuck, of Des Moines, Iowa,
has been allowed another patent on his
invertible hive.

On page 183, 1st column, in the 17th line
from the bottom, the word "eighth" was
omitted by the printer. The sentence should
read thus: "I place the cells in the
nursery cages on the eighth day after they
are sealed, and before night many of the
queens will emerge."

The Congressional P.O. Committee has
instructed a member to report the "Double
Fourth-Class Postage Bill" adversely to the
House. It is very similar in its provisions
to the Bill offered in the Senate by Mr.
Wilson, of Iowa. The "stir" made by
business men (bee-keepers included) has
killed that very unjust and unreasonable
measure. Let us be thankful for that; now
some one ought to move that it be decreased
to one cent for each 2 ounces.

"Bees and Bee-Keeping; Scientific
and Practical. A Complete Treatise on the
Anatomy, Physiology, Floral Relations and
Profitable Management of the Hive-Bee," is
the title of the new work on bee-keeping, by
Mr. Frank Cheshire, and is published by L.
Upcott Gill, 170 Strand, W. C., London. The
first volume contains the scientific part, and
is now complete. It has 336 pages, is
elegantly printed, beautifully illustrated,
and handsomely bound. The subject-matter
is comprehensive, the information recent,
and the style faultless. We can supply this
volume at \$2.00, postpaid. We will publish
a review of this work as soon as space will
permit.

Notwithstanding there has been no
severe cold weather during March, says the
Indiana Farmer, the weather has been suffi-
ciently cool to retard all vegetation, and the
chances are in favor of the bees being able
to reap a rich harvest from the maple and
early willow bloom, giving them an excep-
tionally good start for the season.

So far as we are now able to foresee, the
prospects are very encouraging for the bees
and their masters. The losses have been
light, and bees in the main have come
through the winter in fine condition.

Colonies that are a little weak build up
very slowly during the cool weather of
early spring, the small number of bees
being unable to create the required amount
of heat except over a very small patch of
brood. They may be assisted very materially
by decreasing the size of the brood-chamber
with division-boards, and by a covering of
some warm material. Old pieces of carpet,
bagging, or any thing that will retain the
heat answers the purpose.

We have tried many substitutes for pollen,
but give the preference to rye-meal, as the
bees seem to like it better. The meal should
be spread in shallow boxes in a sheltered,
sunny nook, out of the wind. If the bees do
not take to it readily, some scraps of old
comb laid in the box will attract their
attention. After one or two commence
work others are soon attracted by the hum
of their busy wings, and in a short time the
box will be full of their wallowing dirty
bodies, offering one a good opportunity to
study the process of gathering and storing
pollen. They of course gather only the
finer particles of the meal, leaving the hulls
as offal, and it is surprising to see what a
quantity they can carry away in this manner
in a few short hours.

From Norway comes this from an
ardent admirer of American apicultural
progressiveness. Mr. Ivar S. Young, editor
of the Norwegian bee-paper at Christiania,
writes thus: "I have received the History
of the North American Bee-Keepers' Society,
and have read it with great pleasure; but I
regret not having been able to be present at
the enthusiastic meeting in Detroit, last
December. I feel now more than ever the
need of seeing, hearing, and living with the
most advanced bee-keepers of the world." We
should be pleased to have our European
coteremporary attend the next meeting at
Indianapolis, Ind., next fall.

A Man in Texas has just taken out a
patent on a honey extractor consisting of
a revolving comb-basket in a "can" or
barrel, with a long spindle running up
through a wooden cover turned by a string
being wound around it, the ends of which is
held in the operator's hands, and when one
end is being pulled the comb-basket turns
one way, and then by pulling the other end
of the string, it revolves the other way.
Such might have been an invention 50 years
ago, but now it is a quarter of a century
behind the times. The "inventor" must be
a veritable "Rip Van Winkle," who has
been sleeping for 20 years and has just
awoke. The patent was issued less than
two months ago.

The Anti-Adulteration Bill now
before Congress, has been read twice, and is
likely to pass. The Bill is certainly one of
the most necessary for the protection and
advancement of public health. They have a
stringent law in France, and it is executed
with vigor. We ought to have a similar one,
for an adulterator of any article of food or
medicine should be sent to State's Prison.

Paris has a superb Municipal Laboratory,
the offices, analytical chemists' rooms, and
other departments of which are on the
ground floor of the Prefecture de Police, or
Central Police Office. To this laboratory
anybody who doubts the genuineness of an
article of food that he has purchased, may
bring it for analysis. It will cost him nothing
to have it analyzed. Two inspectors
from the laboratory go to the shop-keepers'
place of business, and take samples of the
kind of goods already analyzed and found
to be adulterated. If the analysis of those
samples agree with the one previously
made, the shop-keeper is rigorously pro-
ceeded against at once. He is liable to be
heavily fined, imprisoned, deprived of the
few civil rights he is supposed to be other-
wise entitled to, and has to display conspicu-
ously in his store window or on his door, for
a year, a large placard bearing the words,
"Convicted of Adulteration."

Another New Work on Bee-Culture.

Dr. C. C. Miller, of Marengo, Ills., has
written a new book, entitled, "A Year
Among the Bees: being a talk about some
of the plans, practices and implements used
by a bee-keeper of 25 years' experience, who
has for eight years made the production of
honey his sole business." It is thus described
by the author:

It is intended, as near as possible, to go over
the whole ground of what I do from the one
end of the year to the other: just what I
should expect a bee-keeper to observe if he
made me a visit of a year. There is nothing
published that occupies exactly this field,
and I often think how much I would have
given for such a work 25 years ago.

We are now printing it and it will be ready
for delivery in about 3 weeks. It will con-
tain about 128 pages, and will be nicely
bound in cloth. Price, 75 cents by mail,
postpaid. It is a valuable work, thoroughly
practical and progressive, just the thing for
beginners, and will obtain a large sale.

New Price-Lists have been received
from the following persons:

- A. I. Root, Medina, O.—40 pages—53d edi-
tion—Bee-Keepers' Supplies, etc.
- A. E. Woodward, Grooms' Corners.—4
pages—Italian and Albino Bees and Queens.
- James F. Wood, North Prescott, Mass.—6
pages—Queens and Bees.
- J. M. Shuck, Des Moines, Iowa.—32 pages
—Invertible Hives and Implements for the
Apiary. Also Curl's Self-Inking Section
Stamp, for marking Sections containing
honey.
- Jas. M. Hyne, Stewartsville, Ind.—12 pages
—Bees, Queens, and Apiarian Supplies.
- M. E. Mason, Andover, O.—1 page—Bee-
Keepers' Supplies.
- Geo. T. Hammond, Brockport, N. Y.—4
pages—Bee-Keepers' Supplies.
- Chas. Stewart, Sammonsville, N. Y.—1
page—Comb Foundation.
- J. C. Bowman, North Lima, O.—16 pages—
Italian Bees and Queens, Bee-Keepers' Sup-
plies and Fowls.
- F. D. Welcome, Mechanic Falls, Maine.—4
pages—Bees, Queens, Supplies, and Small
Fruit.

Any one desiring a copy of either of them,
can obtain it by sending a postal card to the
address as given above.



WITH
REPLIES by Prominent Apirists.

Transferring Bees.

Query, No. 231.—I have a number of colonies of bees to transfer to Langstroth hives, and would like to know the best method of doing it, and when it should be done. I desire replies by prominent apirists.—Va.

I think that I should use the plan which James Heddon employs. It has been given in the BEE JOURNAL.—C. C. MILLER.

The method recommended by James Heddon is good. Transferring can be done at any time, but I prefer to do it when the apple trees are in bloom.—H. D. CUTTING.

Drum out the bees from the old hive, and hive them in the usual way, by shaking them in front of a hive containing combs or foundation on the old stand. The best time to do this is when the honey is coming in moderately at the beginning of the (white clover) honey season.—H. R. BOARDMAN.

Transferring should be done in the spring, and when fruit trees are in bloom is the best time to do it. For detail of a method consult any work on bee-keeping.—J. E. POND, JR.

I transfer bees during apple bloom with the least possible trouble. The combs at that time contain less honey than at any other time, and are tough without being soft or brittle. If the combs are not too old and crooked, it has always paid me to transfer all the worker combs. If any of them turn out to be unsatisfactory they can be removed afterwards at little cost. It will pay dealers in bees and supplies to use foundation in place of the combs, but it does not pay the beginner to go too fast. Any of the text books give the *modus operandi*.—G. W. DEMAREE.

Sowing Melilot and Alsike Clover.

Query, No. 232.—Will it pay to sow melilot clover with Alsike clover in March on fall wheat, letting them stand two years? White clover blooms in this locality from May 20 until July 1. Can I prevent the Alsike from blooming until after this time, by pasturing until the middle of May? Will it then bloom in time for me to secure the seed?—Ind.

Alsike can be kept from blooming in the way mentioned, and a crop of seed secured.—W. Z. HUTCHINSON.

I think it will pay to sow the Alsike; but I should prefer to sow this unmixed. By feeding this off, its time of bloom can be deferred. My

brother has tried Alsike with great success.—A. J. COOK.

We do not think it will pay, as the melilot grows too coarse, and will spoil the other for hay. It is far better to sow them separately. Melilot is good for land which has been ruined by bad cultivation. Its roots are very large, and it promptly enriches the soil.—DADANT & SON.

Space Between Brood-Combs.

Query, No. 233.—Where box-hives are used with immovable bars to support the combs, $\frac{1}{2}$ of an inch thick, would not $\frac{1}{4}$ of an inch space between the combs be as good or better than $\frac{1}{2}$ of an inch, giving less lurking place for the bees in the hive, and sending more bees to the surplus boxes? If not, what are the objections?—F.

Yes, $\frac{3}{8}$ of an inch is enough.—H. R. BOARDMAN.

I think your plan might be good if the bees would follow, but I have tried it a little with movable frames, and the bees changed the space as they built down. But surely—surely—do you take a bee-paper, and are you going to make box-hives?—C. C. MILLER.

Yes, undoubtedly. In fact I find it to be the case with frames. I find also that when a bee-space only is left between the frames, brood is deposited close to the top; when, if they were wider apart, the comb would be used for the storage of honey. I prefer thus spacing the frames to reversing, as it can be more easily and cheaply accomplished.—J. E. POND, JR.

I have worked the combs from $1\frac{1}{4}$ to $1\frac{1}{2}$ inches apart, from center to center of the combs, with success. For stationary combs, $1\frac{1}{8}$ is exactly right. If the bars are $\frac{1}{2}$ of an inch wide they will be $\frac{1}{2}$ of an inch apart. When constructing hives with fixed combs, you must remember that one advantage may be offset by some disadvantage. Thus, if close combs force the bees into the surplus department, the narrow spaces will spread the bees too thinly when in winter quarters.—G. W. DEMAREE.

Swarming and Dividing.

Query, No. 234.—Are bees liable to swarm after they have been divided, if plenty of surplus room is given them? What is the best method of dividing?—Wis.

Yes. There are too many "ifs," "buts" and "ands" to give the best method in this department.—W. Z. HUTCHINSON.

1. They are in this locality. 2. By allowing natural swarming and doing away with after-swarms.—G. M. DOOLITTLE.

Not as a rule. The best plan of dividing is to take 2 or 3 combs of brood with adhering bees from 2 or 3

colonies and unite them, giving them a queen.—H. R. BOARDMAN.

They will often swarm after being divided, though if given plenty of room they are not apt to do so. With reversible hives I think that the swarming can be easily prevented. For increase, unless we permit swarming, I prefer to build up nuclei.—A. J. COOK.

Bees are as liable to swarm if divided after they get the swarming fever, as if they were left alone. If divided before they get the swarming impulse, the dividing may prevent swarming. It would take 3 pages for the methods of dividing.—DADANT & SON.

This is a question that requires more space to answer than this department can afford. I have given my experience regarding it in my book, "Success."—JAMES HEDDON.

Convention Notices.

The bee-keepers of Stark and adjoining counties are earnestly requested to meet at Grange Hall (over Farmer's Bank), Canton, O., on Tuesday, Apr. 13, 1886, for the purpose of effecting a permanent organization. MARK THOMSON, Sec.

The Southern Illinois Bee-Keepers' Association will hold its 3d annual convention in Teague & Harris's Hall at Duquoin, Ills., on Thursday, Apr. 8, 1886, at 10 a.m. A general invitation is extended. F. H. KENNEDY, Sec.

The Union Bee-Keepers' Association of Western Iowa will meet in Dexter, Iowa, on April 10, 1886, at 10 a.m. M. E. DARBY, Sec.

A cordial invitation is extended to all to attend the 8th annual meeting of the Texas State Bee-Keepers' Association, to be held at Judge W. H. Andrews' bee-farm, at McKinney, Tex., on May 5 and 6, 1886. Indications for a grand meeting grow brighter every day, and every effort will be made to render this meeting the best and largest ever held in the State. No hotel bills to pay. B. F. CARROLL, Sec.

The next annual meeting of the Western N. Y. and Northern Pa. Bee-Keepers' Association will be held at Randolph, N. Y., on May 4, 1886. A. D. JACOBS, Sec.

The Progressive Bee-Keepers' Association will meet in Macomb, Ills., on Friday, Apr. 9, 1886, afternoon and evening. Essays will be read and an address will be given by Rev. E. L. Briggs, of Wilton Junction, Iowa. Other speakers of note will be present. It is desired that all interested in bee-keeping should be present. J. G. NORTON, Sec.

The Des Moines Co. Bee-Keepers' Association will meet at the Court House in Burlington, Iowa, on Tuesday, Apr. 27, 1886, at 10 a.m. Any articles sent to the President, Mr. Geo. Bischoff, at Burlington, for exhibition, will be well cared for and returned or sold, as the sender may direct. A cordial invitation is extended to all interested in bee-keeping. JOHN NAUF, Sec.

The semi-annual meeting of the Western Bee-Keepers' Association will be held in Pythian Hall, N. W. Corner of Main and 11th Sts., (entrance on 11th St.), at Kansas City, Mo., on Apr. 29 and 30, 1886. The Cable Line can be taken from the Union Depot for 9th and Main Sts. The following essays will be read: "The Honey Market," by Clemons, Cloon & Co.; "Bee-Keeping in Iowa," by E. Kretschmer; "Best method of handling bees for comb honey," by A. A. Baldwin; "Missouri Bee-Keeping," by J. D. Pearce; "Does bee-keeping pay as a pursuit?" by Jos. Nysewander; and "Invertible Frames and Hives," by J. M. Shuck. P. BALDWIN, Sec.

The Illinois Central Bee-Keepers' Association will hold its next meeting at Mt. Sterling, Ills., on Tuesday and Wednesday, Oct. 19 and 20, 1886. J. M. HAMBAUGH, Sec.

To any One sending us one new subscriber with their own renewal (with \$2.00), we will present a copy of the new "Convention History of America."



Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark \odot indicates that the apiarist is located near the centre of the State named: δ north of the centre; η south; \circ east; ω west; and this δ northeast; ω northwest; α southeast; and ρ southwest of the centre of the State mentioned.

For the American Bee Journal.

Replies to Inquiries about my Hive.

JAMES HEDDON.

I deplore the necessity of writing so long an article upon this subject. I will endeavor to answer the questions of Messrs. Alves, Kretschmer, and Pond, most of which relate to our United States patent laws and rulings. For the past 20 years some of my study outside of apiculture has been that of patent law; being led in this direction by association with a near friend, who is one of the leading solicitors and counselors in this country. Before penning my replies, allow me to quote the following from the Supreme Court decisions, and other high authority, numbering the quotations in sections, references to which will save time and space; for I am sorry to say that brevity and justice to the subject are not possible partners when discussing this question, and answering many inquirers in one article.

In view of the fact that bee-keepers have received some false impressions regarding the object and worth of our patent system, and that almost all believe the erroneous doctrine that the breadth and validity of a patent may be determined by subjecting its claims to a few sharply-defined, dogmatic statutes, I offer the following quotations:

SECTION I.—The right of property which an inventor has in his invention is excellent in point of dignity by no other property-right whatever. The benefits which he confers are greater than those which he receives. He receives from the Government nothing which costs the Government or the people a dollar or a sacrifice. He receives nothing but a contract which provides that for a limited time he may exclusively enjoy his own. Letters-patent are not hurtful monopolies.

II.—Old desires newly attained are evidence of invention.

III.—Combining old devices into a new article constitutes invention, when such combination produces a new mode of operation.

IV.—According to a principle in patent law—one prominent in determining patentability—the public adoption or desire to adopt a new device affords evidence of novelty and patentability.

V.—Patent law declares that the fact of abandonment and subsequent adoption of things claimed to be alike, is evidence sufficient to negative that claim.

VI.—Novelty of a thing is not negated by any other thing fundamentally incapable of the functions of the first.

VII.—Novelty and patentability are not negated by the fact that every part of the thing is old.

(By virtue of a new combination of the old 26 letters, this issue of the AMERICAN BEE JOURNAL is new.)

VIII.—Novelty of any thing is not negated by another thing which was not designed or used to perform the functions of the first. Everything favors the patentee on account of perjury.

IX.—Infringement or desire to infringe, are either or both, *prima facie* evidence of utility.

X.—Addition to a patented machine or manufacture does not enable him who makes, uses or sells the patented thing with the addition, to avoid a charge of infringement. The above is true, even when the addition is a great improvement, and patentable or patented.

XI.—Changing the relative position of the parts of a machine or manufacture does not avert infringement where the parts transposed perform substantially the same respective functions after the change as before.

XII.—Any claim will hold its equivalent, for few combinations now exist, or can hereafter be made, which do not contain at least one element, an efficient substitute for which could readily be suggested by any person skilled in the particular art.

XIII.—The state of the art to which an invention belongs at the time that invention was made, must be considered in construing any claim for that invention.

XIX.—The original inventor of a machine will have a right to treat as infringers all who make, use or sell a machine operating on the same principles or performing the same functions by analogous means or equivalent combinations.

XX.—A patent should be construed in a liberal spirit to sustain the just claims of the inventor. Novelty and utility constitute patentability. Whether mentioned therein or not, all claims hold all equivalents and all constructions, the arrangements and functions of which are substantially like the thing claimed.

By the foregoing it will readily be seen that our patent statutes and rulings are very elastic; made so for the purpose of doing justice in all the varied cases; and further, that a patent covers much more ground than usual where it relates to a manufacture which is adapted to and invented for carrying out a new mode of operation or system of management.

Space forbids the mention of the many decisions in actions in equity, which go so far toward doing justice to those who give the public something of value.

In reply to Mr. Alves' questions on page 72, I will say that the only trouble I have had in any of the ways he mentions, has been to get all the parts of the hive of accurate measurement, and thoroughly-seasoned material. After that, everything stays in place, and I have less trouble with bee-glue than when using the suspended frame. So say all who have used the new hive. I desire to thank Mr. Alves for his candid and intelligent article on page 167.

Regarding Mr. Kretschmer's patent: By adopting the following method in replying to him, I do so to save space, and because the case at point is so clear. I have a copy of his patent, No. 67,123, cited by him on page 211 of *Gleanings*, and page 185 of the BEE JOURNAL. I have studied his specifications, of which the drawings form

a part, and carefully read the four declarations which he says constitute the nature of the invention. None of them anticipate or conceive of one single principle connected with the construction, manipulation, or new functions of my hive. The brood-chamber is not in two parts, it has a fast bottom, is utterly incapable of being inverted, "alternated" or interchanged, and not a word pointing to the conception of such a thought is anywhere found in the specification. The upper surplus apartment has tight-fitting top-bars. The wedge of which Mr. Kretschmer speaks, is not the equivalent of a screw, is not used substantially in the manner nor for any of the purposes for which I employ the use of the screw, except as it presses the frames together, tending to lessen the deposit of bee-glue between them, which has been used for years in wide-frame supers, and for which no one has ever claimed a patent.

The break-joint principle of my honey-board is shown very differently arranged, not substantially as I use it, nor for any of the purposes except that he mentions its having a tendency to prevent the queen from going above, while I use it mainly for the purpose of preventing the attaching of brace-combs to the bottom of the surplus receptacles; for which a patent was granted to me when used in combination with the new hive.

Now, Mr. Editor, in order to save time and space I mail you a copy of Mr. K's patent as cited, also of my own, and request you to hand them both to the foreman of your manufactory, or any patent lawyer, or any one else competent (if for any reason you would rather do so, than examine it yourself), and in a foot-note to this article, give the results of that examination in fewer words and less space than would be required to copy our several specifications and claims, and state whether or not my declarations as above are correct, and if you can find one single feature or principle anticipating the construction or purposes of my late invention.*

In point of connection let me refer the reader to many of the sections above quoted.

Referring to Mr. Pond's article on page 199, the sections I quote above, as well as Dr. Tinker's candid article, seem to me to fully answer Mr. Pond's questions. Mr. P. sees little difference between my arrangement and Mr. Root's Simplicity hive, except in depth, which the latter constitutes no invention. I certainly can and should have no objection to the continuance of a public use of Mr. Root's Simplicity hive in any depth, or the use of anything else that has been in use, or anything that may come into use that does not use substantially any of my combinations as and for the purposes specified. I should not, could not, and do not claim anything based upon depth, size, number, or thickness of parts.

Although the idea of inverting combs by series rather than singly, originated with me (whether prior to

originating with others I cannot say). I make no claim to the principle, except when operated by the mechanical construction described in the specifications of my patent.

Mr. Shuck's patent, though filed before mine, was issued later than mine, and like it, is perfectly valid; it in no way interferes with mine—neither one being cited to the other during the pending of our applications. Mr. Shuck is working in one way and I in another for the accomplishment of ends which our experience has taught us are valuable. Wedges are not equivalent to screws, and practically incapable of performing the functions of the latter when used for the purposes for which I use them, as specified in my patent.

I am astonished that Mr. Pond should interpret patent principles as he does. In reply to his question as to what is *new* in my hive, and what I claim as my invention, I will enumerate them:

1. The set-screws in combination with closed-end brood-frames, or wide frames for the purpose of securing them tightly in the case, for the purposes of supporting the frames when inverted.

2. Arranging frames within a case (which is bee-space deeper than the frames) in such manner as to leave one-half of that bee-space on either side of the frames, or arranging them so they can be quickly adjusted to one side or the other, thus reversing the bee-space at will.

3. The combination of my honey-board containing a bee-space in one of its surfaces, or divided between each surface containing slats arranged to cover the spaces between the brood-combs below, with the cases as above described.

4. A cover with one or both surfaces containing a bee-space, or partial bee-space, when used in combination with the cases above described.

5. The combination of the cases, as described with the bottom-board and bottom-stand, as described in the specifications.

6. In a bee-hive a brood-chamber composed of two or more horizontally, separable and interchangeable sections, when said sections are made invertible.

The above constitutes most of that part of my invention which I believe is not anticipated by anything inside of the Patent Office, nor outside of it, so far as the state of the art is now known. All of which is shown in my specifications, much covered by the claims, and the rest open to re-issue. I could have claimed and held all double brood-chambers, no matter how they are constructed, had it not been for the existence of older constructions in impractical form, and which died of that derangement. This limited me to what I believe to be the best construction of it. However, I claim an honorary right to all double brood-chambers when used for the purposes specified in my patent. The matter stands like this: Arnold owns a horse. His horse dies. (A dead horse is burial-expenses worse than worthless.) Thompson has the power to bring that horse to life; and with much effort he succeeds in doing so. Now, who owns that horse? Morally, Thompson; legally, Arnold, and he will likely keep him, if he is a descendant of "Benedict."

As this article is already too long, I will close by referring Mr. Pond to Sections 2 to 8 inclusive, and add that it seems to me that all that has been

said, and is being said, regarding this invention, amounts to the best of evidence in favor of its novelty and utility, and I cannot yet believe that many bee-keepers wish to avail themselves of the results of my labor, either as an inventor, promulgator or advertiser; and I do believe that any who may attempt it, will by so doing lose more than they will gain, such is the disposition of most bee-keepers to do justice and give "honor to whom honor is due."

Dowagiac, 9 Mich.

[*As we prefer not to be "mixed up" with this hive controversy, we handed the two patents to our foreman for critical examination. He gives his opinion thus: "After carefully reading the specifications of both hives, and the proof of the above article, I fully coincide with the opinion of Mr. Heddon, and do not find one single principle in the Kretschmer specifications anticipating the construction or purposes of the Heddon hive."—Ed.]

For the American Bee Journal.

Marshall Co., Iowa, Convention.

The Marshall County Bee-Keepers' Association met at the Court House in Marshalltown, Iowa, on Feb. 20, 1886, with the President, Mr. O. B. Barrows, in the chair. The minutes of the previous meeting were read and approved. There being but few present, it was thought best to defer the regular programme until the afternoon session. The convention then adjourned to meet at 1 p.m.

At the afternoon session the President made quite a display of tools from his apiary, that are of convenience to the practical bee-keeper. The exhibition seemed to interest all present. The regular programme was then taken up.

By request the Secretary read Mr. L. Koeper's essay as follows, on

HONEY-PLANTS OF IOWA.

The soft maple is the first bloom in the spring, but it is often lost on account of the cold weather. The dandelion is the next to bloom, but it is not of much importance, as the honey is dark and of a bitter taste, and makes the bees very irritable. The raspberry is a good honey-producer, and yields a very good honey that is excellent for the queen in the laying season.

During the past three years the most important honey-plant has been the white clover. It is abundant, and produces a clear, white honey. Sumac yields a dark honey, and very poor bee-bread. The willow yields some honey, and the best bee-bread of all the different honey-plants, yet it would have been better had we never known the white willow, on account of the plant-louse, which is sure destruction to the bees.

The basswood affords a fine aromatic honey which is a medicine for man and bees, especially the queen-bee, when she is exhausted from laying so many eggs daily. Second-crop red clover produces good, thick, brown

honey. Alsike clover is a good honey-plant, and lasts through the early part of the summer; but being a biennial plant, it lasts only for two seasons. Goldenrod is the richest honey-flower here, and if there are plenty of flowers, the bees will store 5 pounds of honey from this in the same time that they would gather 3 pounds from white clover. The only one of importance remaining is the buckwheat, which yields a thick, brown honey.

Gooseberries, plums, fruit-blossoms, elms, hard-maple, box-elder, corn, cucumber, melon, squash, cane and many other plants produce honey, but not in paying quantities.

The essay was of interest to all present, and called out a number of questions which were satisfactorily answered by Mr. Koeper. One was, "Why is the willow injurious to bees?" Mr. Koeper replied that the willow was the natural home of a plant-louse or aphid; and this aphid was a great producer of the so-called honey-dew, as well as are many other aphids or minute insects of other trees and plants that produce the honey-dew by exudation. This substance is often gathered by bees. It is of very poor quality, and poisonous to the bees when stored in their hives. It is no uncommon thing for whole colonies to be killed by it. In Germany he had seen 16 different kinds of aphides examined by a powerful microscope, and all showed this so-called honey-dew, some of the smaller ones producing the most. He said this was the only way that honey-dew was produced.

The Secretary stated that, from reports, in many parts of the country during the season of 1884, whole apiaries were badly injured, or entirely destroyed by this honey-dew. He said if there was such a thing as honey-dew, as many believe there is, it would be on all kinds of vegetation alike, just the same as the common dew.

G. W. Keeler, on the subject of extracted honey, said that he was not prepared with an essay, but would tell how he worked his own apiary. He used a two-story hive, the lower story being 11 inches deep, and the upper 7 inches. He extracts entirely from the upper story, unless there is a crowding of the brood-chamber, in which case he extracts the extra honey and puts empty combs in the centre of the brood-chamber. He extracts the honey when the combs are partially sealed; puts the honey into barrels, and covers them with a cloth so as to allow the honey to cure well, keeping it in a warm, dry place.

Mr. L. Koeper extracts as soon as the combs are full, and before it is capped. This saves the trouble of uncapping, and he thinks he can get much more honey than to wait for it to be capped. He lets it ripen in open vessels. He uses a one-story hive with a large brood-chamber with 15 frames; takes the honey from 4 to 6 of the outside frames at first, and on every second day, getting from 4 to 11 pounds per colony in two days. He

likes taking it before it is capped, for by that means he gets each kind of honey separate. His idea is that the honey ripens by evaporation, and is just as good as when allowed to ripen in the combs.

Mr. G. W. Calhoun preferred to extract the honey after it is capped.

The Secretary stated that he likes to have the upper story the same size as the brood-chamber, so as to exchange frames if necessary, on account of its being so convenient to have the frames all of one size. He often found it necessary to extract from the brood-chamber of a 10-frame Langstroth hive, so as to allow ample room for the laying of the queen.

The subject, "Spring Management," was then taken up as follows:

Mr. Cover puts his bees out as soon as the weather will permit in the spring. He puts out a little honey to attract them to their pollen feed. He uses rye, corn and oats well ground, and feeds some honey where they need it. He keeps them supplied with this pollen feed until they begin to gather from the timber. One spring his bees gathered natural pollen for 3 days in February, and all thought that this was an unusual thing for bleak (?) Iowa.

Mr. Koepfer prepares his bees well before the time to put the hives on the summer stands. Then on some warm day, but not too early, he lets them have a good flight, and on the next day, if it is pleasant, he goes over them and cleans all up, giving each one its necessary attention. He aims to get all colonies strong by the time the white clover comes. He places empty frames in the centre of the brood-chamber as fast as they are needed, and uses artificial pollen to stimulate breeding.

Mr. Keeler, Mr. Calhoun and others said that they used about the same methods as had been given. The Secretary called the attention to the use of a division-board with rubber on the ends, so as to make it fit close and be easily moved in contracting the size of the hive to suit the colony.

Nearly all present reported that they put their bees into winter quarters about Dec. 1, and the report of all was that their bees at this time were all right, or appeared to be in fine condition.

The whereabouts of Mr. F. H. Hunt were inquired for, and whether the honey that was sent to the State Chemist had been heard from. The Secretary replied that Mr. Hunt left the State, and that Mr. Tamblin, of Lincoln, Neb., the one who had the honey forwarded to our State Chemist at Iowa City, had died early last spring. The Secretary had received no report from the chemist. A number present were of the opinion that all was not right with the man who was once an Iowa bee-keeper. This Association denounces all fraud or the appearance of it.

The subject for discussion at the next meeting, is "The summer care of bees." "How to control swarming" will be treated of by Mr. L. Koepfer. The annual election of officers will occur at the next meeting.

The convention then adjourned to meet at the same place on Saturday, April 17, 1886, at 10:30 a.m. Bee-keepers of other counties are invited to attend.
J. W. SANDERS, Sec.

For the American Bee Journal.

The Quiescence of Bees in Winter.

17—G. M. DOOLITTLE, (40-95).

About the time I gave my report of my winter loss of bees in my beecellar, during the winter in which I kept the temperature of the cellar at 50° or more by the use of an oil-stove, I told how I always found the bees active every time I went into the beecellar, and how, upon raising a quilt over any colony, the bees were always ready to come out to meet me and buzz against the lamp. From this I prophesied that I should lose those bees, for heretofore, during winters in which the temperature of the cellar had been from 40° to 45°, I had always found the bees inactive, and in a very quiet state.

A short time after this, Rev. W. F. Clarke wrote me that he "was sorry for my loss of bees in my beecellar, but that my experiments had been the means of his making a great discovery, which I would soon see in print." He also added, if I mistake not (I quote all from memory as I have not the time now to hunt up the letter), that if I "did not fully accord with his views he hoped I would not be hasty in harshly criticising them;" to which I replied that I would take time before I said aught of his "great discovery," whatever it might be. It soon appeared that the "great discovery" was his "hibernation of bees," and as several years have elapsed since he made that discovery, I feel that I have kept my agreement with him, and am at liberty now to say a few words on the subject.

During all this time I had been trying to find out just what Mr. Clarke meant by his word "hibernation," but I could not fully do so until I read Dr. Tinker's article on page 5. To this, Mr. Clarke cried "Eureka!" "Henceforth 'HIBERNATION' is the word," expressing the quiescent state in which Dr. T. found his bees. When Mr. McNeil wrote in the BEE JOURNAL, a year or so ago, that Mr. Clarke had made no new discovery regarding the hibernation of bees, Mr. C. replied: "What I did was this: I called attention to a fact or principle in bee-life, not unknown, but practically overlooked in our theories of wintering.... In this condition (hibernation) their consumption of honey is very trifling, and if we can find out how to get them into it, we shall secure their wintering at the smallest possible cost." When I read this I said to myself, "I believe Mr. Clarke is mistaken in thinking that the above conditions had been 'practically overlooked' until he 'called attention' to them;" but I was not positive of it until he accepted Dr. Tinker's definition of the "hibernation of bees." As soon as he did this, I turned to page 145,

Vol. III of the AMERICAN BEE JOURNAL, where I found these words written by my old teacher in bee-culture, E. Gallup, who, by the way, ought to receive greater credit for his practical articles of 15 years ago than we are giving him. The words are these:

"Walk down into my cellar and see the bees, it will take but a few minutes. Step up and look at them by the light of the lamp. Do you see the striped fellows in this hive? 'Yes,' but Gallup, they are dead as a door nail." Not a bit of it. "Well, they don't stir." Let us breathe on them a trifle. "They are alive; that is a fact. Do they keep as quiet as that all winter?" Certainly. And that is not all; they scarcely consume any honey all winter." The title of the article from which I have quoted is "Prevention of Bee-Diarrhea," and I request that it be republished entire, so that Mr. Clarke, Dr. Tinker, and all may read how to winter their bees in safety, for I know from an experience of 17 years that the vital principles regarding the safe wintering of bees are found in that article.*

The reason why I knew that my bees were going to die that winter, was because they were not in the quiescent state which Mr. Gallup describes as a requisite to safe wintering—the state mine had always been in when I had been successful in cellar wintering. I have just seen my bees that are in the cellar, and I find that all those which are properly ventilated are entirely motionless, except as they are disturbed by being breathed upon or otherwise, while a few that I tried to keep warmer by confining the heat in the hive, are not clustered as compactly, and are easily disturbed by the rays of the lamp. The temperature of my cellar is 43°, while in another of Mr. Gallup's articles, he says that his was 40°.

I should like to tell the readers all about how the different colonies of bees act in my cellar; how they compare with their actions of other winters; how I have watched them for hours to see the change in the cluster, of which Prof. Cook speaks, etc.; but it would make this article too long were I to do so. But I must say that, with Prof. Cook, I object to "this winter quiet of bees" being termed "hibernation." Any thing that can be aroused to activity by a simple breath of air cannot be said to hibernate, according to my understanding of the word. Prof. Cook illustrates hibernation on page 87, by means of the wasp. I wish to illustrate it a little more by telling a story of a colony instead of an individual, as some might say that there would be a difference. It is as follows:

During the fall of 1875 I built a new house on my present location, 40 rods from any other building. In 1876 I built my shop and put in a steam engine. Where I had formerly lived I was bothered with black ants which I supposed were the same as those which throw up mounds of earth in meadows and elsewhere in this locality; so I expected to soon have them about in my new location, as I noticed these earth-mounds all about. Much

to my delight no ants appeared until the summer of 1878. During the winter of 1877-78 I cut an aged maple tree in the woods and drew it in "drags" down by the shop to use for fuel for my engine. In cutting up the dead and somewhat dozy top of the tree, I came across a colony of ants. These ants appeared as dead as any dead insect I ever saw. I looked them over, picked out several queens, and, when my curiosity was satisfied, threw all on the snow where I saw them every day for about a week, when a snow covered them up.

As spring thawed the snow away my ants laid on the ground in a pile near the sill of the shop, when I again poked them over and examined the "dead things." In a few days the sun came out hot, and that evening, in passing the shop, I noticed that my pile of ants was gone, and soon found, much to my sorrow, that they had taken up their abode in the sill of the shop and elsewhere, wherever they could gnaw into the wood, where they still exist to torment me every summer. These ants were HIBERNATING, gave off no warmth, lay motionless all winter, did not stir when their home was split open, and no amount of disturbance could arouse them. If Mr. Clarke or Dr. Tinker can get a colony of bees to pass the winter in like state, then we will all willingly call it "hibernation," and besides, shower them with honors for making a "great discovery." Till then, friends, please use the word "quiescence" instead of "hibernation."

Since writing the above I chanced to split another colony of ants out of a decayed log. These appeared as dead as those spoken of which I found several years ago. I took two in my hand and breathed upon them three times, as long as I would to revive chilled bees, but there was no signs of life. I then took 10 of them and put them into a bottle, placing the bottle near the steam-engine where a temperature of 85° was maintained. At the end of 3 hours no life was shown, but in 5 hours from the time they were left there all were as lively as crickets. This was hibernation, not quiescence.

Borodino, © N. Y.

[*As soon as space will permit, we will republish the article.—ED.]

For the American Bee Journal.

Telling the Bees.

W. F. CLARKE.

I supposed that the superstitious custom of "telling the bees" belonged to a by-gone age, until the other day, when I made the unexpected discovery that there are some remains of it, even in this era of light and knowledge.

Calling on an aged English lady, an old maid—it is no libel to call her such, for she is in her ninety-third year—the conversation came somehow to turn on bees. "I used to keep them," said the old spinster, "and I'll tell you how I lost them. When

my father died, I went to the hives and rapped on each one, saying "death, death, DEATH!" When my mother died, I was so troubled and worried that I forgot to tell the bees, and every one of them died."

"I do believe its all a blather o' smoke," said her brother, an old boy of about seventy. "I tell thee, Henry, its nuthin' o' the kind. Its true as Bible. Why, there's William D." (resident about two miles away), "who used to keep bees; he got married, and did n't tell the bees. Well, his wife got cancer and died, and every one of the bees died, too."

It was of no use arguing with a lady of her age and experience, for

"If she will, she will, you may depend on't; And if she wont, she wont, and there's an end on't."

So I left her to hug her pet superstition during the rest of her waning eve of life.

Guelph, Ont.

For the American Bee Journal.

Causes of Loss in Winter.

JAS. A. MINICH, M. D.

We can scarcely pick up a bee-paper that has not something to say on this subject. We hear it discussed *ad infinitum* at our conventions; and of remedies to guard against winter loss, there is no end. It is amusing to see how widely apiarists differ and the variance of their opinions. I have listened patiently, and have faithfully read all the theories. I do not object to any and all the plans that have been given from time to time; they are all good enough as far as they go. It is well to put chaff-cushions, forest leaves, or any good absorbent in the upper story of the hive; or to pack straw or sawdust, or chaff around the outsides of the hive; contract the brood chamber to five or six frames; make passage-ways through the combs, or place sticks on top for the same purpose; and put them into a suitable cellar. All these cautionary measures are proper, and most of them necessary to success. The bees will generally winter well and come out in the spring all right, and every bee-keeper feels as though he had solved the winter problem, and is on the road to success, and even to fame, and he cries "Eureka!"

But sooner or later an epidemic comes and the bees die in spite of all the above plans and remedies, and a "change comes o'er the spirit of his dreams." And again the discussion begins—"too much pollen," too much ventilation, or not enough; too much heat or too much cold, or too damp; and more remedies are offered. Now, why is it that these epidemics will come every few years? In my opinion the main reason has been overlooked. I have observed that every epidemic among bees has been preceded by a *drouth* the summer or fall previous. I wish every apiarist to make a note of this. This was the case the summer and fall of 1880, and it was followed in the winter by great fatality among the bees. It was the case 13 or 14

years ago—I cannot tell the year—and the bees were almost annihilated the following winter in Central Indiana. And in the summer and fall of 1884 there was sufficient drouth at the proper time to bring about the same result.

But how could it affect the bees? you ask. In two ways: 1. It is a well known fact that flowers will not bloom and honey will not flow in dry weather, and consequently the queens cease to lay eggs, and breeding stops. Now one can readily see that colonies will have to go into winter quarters with old June and July bees which were ready to die from old age and exhaustion; or perchance a few of them might linger a few weeks longer, and "one by one they pass away" in the spring—"spring dwindling" caused by old age.

2. *Dry weather* is conducive to the secretion of honey-dew or "bug-juice," and bees will gather it and store it away for the winter, which causes *diarrhea* among the bees and consequent death.

The remedy: Taking the above to be facts, the remedy is now plain enough; the winter problem is solved. When dry weather sets in, and the honey-flow ceases in August and September, the bees should be fed regularly so as to stimulate late breeding. This should be done *regularly*, or the queens will not have much confidence in the future outlook, and will stop laying. Honey-dew should be excluded in every way possible. It can be detected as soon as the bee-keeper sees it. Take it out and feed them bountifully on cane-sugar syrup.

Now, fellow bee-keeper, if you will be as careful in this respect as you are in others, you will have no losses. Remember that your greatest trouble is caused by drouths; and that if your colonies can go into winter quarters with young bees; with pure honey or syrup; cushions of chaff or leaves on top; passages for the bees to travel from comb to comb; and keeping them quiet, and not bothering them at all in their long rest, you will see them all come out booming in the spring. No matter how severe the winter may be, they will survive and come out all right, on the above conditions.

Indianapolis, © Ind.

For the American Bee Journal.

A Sample of "Cheap" Honey.

W. J. CULLINAN.

I have frequently noticed honey quoted at 6 to 8 cents per pound in the markets, and as often wondered how *pure honey* could be produced and sold at a price that would justify the dealer in offering the same at these (as I supposed) ruinous prices. My wonderment was still further augmented when I learned, the other day, that a dealer in groceries at this place was selling California (?) honey, which he purchased in New York, at 11 cents a pound. I did not go to see the stuff, which I learned resembled a poor grade of white sugar wet with

water, and forming a tasteless compound bearing no resemblance to honey. And yet the dealer was ignorant enough to say "they (meaning his customers) might know it was white-clover honey, as they could taste the comb in it."

Again, I noticed honey quoted in the BEE JOURNAL at 4½ to 5 cents per pound, and I then concluded to ponder no longer in the dark, but immediately sent for a sample of the "four-and-half-to-five-cent honey," and to-day I received by express a package in which were two little bottles containing what I supposed to be honey, but which I found upon examination to be an admixture of coarse, dark, brown sugar, glucose, *ad infinitum*, wet up to a stage resembling in an exceedingly remote degree, partially granulated honey.

It is needless to add that my wonderings at the possibility of selling "honey" at such rates were now at an end, but still I wondered; my wonderings now, however, were of a different order, viz: I wondered now how it was possible for them to get customers even at this low (?) price!

It seems to me it is a bold affrontery upon a trusting public, for men (if men they should be called) to make and sell such stuff as an article of diet; but is it not a vile, yea, villainous imposition upon the bee-keeping fraternity for the manufacturers of those repulsive compounds to herald them to the world as *honey*, bringing disrepute upon that God-given nectar, gathered from the cells of flowers—Nature's own repository—by the "little busy bee," and stored in clean, white comb to be converted to the use, health, and happiness of mankind; thereby damaging the interests of the thousand-and-one honest men engaged in the noble pursuit of bee-keeping?

The manufacturers of oleomargarine are no longer allowed to call this vile mixture of tallow, lard, etc., by the name of "butter;" and why should that other class of impostors be permitted to heap odium upon the heads of bee-keepers by styling their noxious and repulsive compounds as "honey?"

Surely our Legislatures, if not our General Government, should be importuned to protect and sustain us in this one of the noblest pursuits of man.

Mt. Sterling, Mo. Ills.

For the American Bee Journal.

The Sectional Brood-Chamber Hive.

13—J. V. CALDWELL, (125-165).

This new hive seems to be undergoing a fiery ordeal, and in view of the claims put forth by its friends and champions, it is but right that such should be the case. Any hive or other implement used in the apiary, and for which it is claimed will effect a complete "revolution" in our business, must be carefully and fairly criticized. I think that no candid and fair-minded apiarist will deny this. I believe that Mr. Heddon is working for the good of the cause,

and in proof of this witness his careful and often losing experiments in wintering; and taking these things into consideration, the claims he puts forth regarding this hive must have a fair and unprejudiced hearing.

We who have read carefully Mr. Heddon's articles during the past year, know that he has been trying to handle his apiaries with as little labor as possible, knowing as he does that honey so produced must be cheap, when compared with honey produced by much high-priced labor. And as our product is yearly becoming cheaper in the markets, it is an idea of no little importance—at least to us who are making a specialty of the business.

I like the idea of a shallow frame, and, in fact, for the past ten years I have used and like much the best a frame but 7¼ inches deep, inside measure. I have also a good many bees on Langstroth frames, but they are too deep for me.

But concerning this new hive, as Dr. Miller says, there are some things I do not understand. We, who winter our bees in cellars, want to know if we must carry all the double lower story into the cellar; if not, will one of the divisions hold enough honey to safely carry the bees through the winter, or at least until it is time to place them on the summer stands? Again, will not the bees be clustered in both parts so we must pull them apart in cold weather when putting them into winter quarters? We who are asked to throw away our old hives and adopt this new candidate for public favor, would simply like to know how much more comb honey can be taken on an average than from our old hives, other things being equal; for, in the end, honey and not bees is what we are after. Doubtless Mr. Heddon can enlighten us on these things, as we must know all we possibly can about it before we spend our hard-earned dollars for any new bee-hive. But on the other hand, if it will be a benefit to us, of course we want it.

Cambridge, Mo. Ills.

For the American Bee Journal.

Honey-Interests of Florida, etc.

W. S. HART.

"The mangroves have been entirely destroyed by the recent cold wave," so wrote Mr. Jno. Y. Detwiler, on page 60; and on page 102, about the greatly damaged honey-interests of the Florida coast. I do not wish to enter any prolonged controversy over the effects of the cold in this State, but as I believe Mr. D. is inclined to look upon and present to others the dark side of this matter, I would ask permission to "state plain facts," also "let it injure"—no, let it benefit "whom it may." I do this even at the risk of being classed among the "property-owners who have lands for sale." But to escape the consequences of this grave charge as far as possible, I will say that it is on record that I often recommend

good people to go to other parts of the State where I have no property, and in what I write herein I will give references and figures that can be traced up and proven false if they are so.

First, he states that "the mercury is reported by various parties as being as low as 10° to 20° above zero." True, such were the reports, and at the date of his first writing it could not be satisfactorily proven false, but as the 10° report was from only one person, and he living on the peninsula near Mr. Detwiler, who reports "on the peninsula the mercury was 20° above zero," I feel sure there was a mistake of some 10° in the lowest report. As further evidence I will state that the lowest point indicated by my thermometer was 23° above zero, at 3 a.m., on the morning of Jan. 10. The lowest reported here at Hawk's Park, from the thermometers in the most exposed positions, was 20° above. At New Smyrna, two miles north, with the exception of the 10° report, the lowest showing was from a thermometer hung in the most bleak place to be found on board of a steamer moored to one of the wharfs. It registered 18° above. At Jacksonville, 100 miles north of here, the Signal Office report at 6 a.m. on Jan. 12 (the coldest day there), was 15° and 3 minutes, which was the coldest registered since 1835. On the place where the 10° report came from, I am told that the little nursery trees retained their leaves, and look as thrifty as ever. Evidently there was some mistake.

2. Notwithstanding the "personal examination," I believe that much of the mangrove here is still alive, and if the blossom buds of the surviving trees are not blighted, we may get a small crop of mangrove honey even this year. A "personal examination" by Messrs. O. O. Poppleton, A. S. Brown, H. W. Mitchell, myself and others, shows quite a per cent. of the black mangrove trees still alive, some of them not having even a twig hurt. It is true that the tree is a slow grower, but as all the bees kept here could take but a small part of the honey heretofore produced by the mangrove, I think there will very soon be enough for them again. In the lower part of the State the mangrove, and even tomatoes, pine-apples, cocoanuts, etc., have escaped unhurt. Some bees and fixtures are offered for sale, for in this as in every other industry, there are some weak-kneed parties that are ready to wilt as soon as the starch of success is withheld for a time.

3. As to the interior's having "suffered much more than admitted," it seems to me that people from all parts of the State have been unusually candid in their statements of the losses, and as each locality has its peculiar advantages, and the building up of any part of the State is a benefit to it as a whole, it is a narrow, near-sighted policy that tries to build up one section or industry by defaming another.

4. "Take away the honey and orange interests of Florida, and there

is but little left for humanity to subsist upon except the food-resources of the coast and the genial climate, which, in many instances, prolongs life when disease has taken a firm hold upon the system." Well, the last part of this quotation is undoubtedly true, and I will vouch for it, but the first half will truly be a surprise to most of the good people of this State who claim to know something of her resources. Let us compare some of our other industries with the two mentioned, and see where they stand in relative production and gross income: Manager Ives, of the Florida Fruit Exchange (than whom no one is better able to judge), estimates the crop of Florida oranges for 1885-86 at 1,000,000 boxes; this at \$2.50 per crate ready packed, which is surely a liberal average, would give the State \$2,500,000 for the year's crop. In 1884, probably the honey crop of the State was heavier than ever before, or than it was the past season. The State statistics show a production of 210,357 pounds for that year, about one-half of which was produced in this immediate neighborhood. As most of our honey is extracted, I consider 10 cents per pound a fair price at which to estimate the crop; that being some higher than extracted honey sold for that year, and considerably lower than the price of comb honey. Stating it thus, 210,357 pounds at 10 cents per pound, amounts to \$21,035.70, making our best showing in the way of a honey crop.

By referring again to statistics of Florida's production in 1884, we find that there was produced of corn, 3,857,200 bushels (worth from 60 to 70 cents per bushel in Jacksonville); potatoes, 70,848 bushels; oats, 494,000 bushels; cotton, 60,000 bales; molasses, 1,290,860 gallons; tobacco, 224,239 pounds; lumber, \$3,060,291 worth. We have shipped to Cuba during the last ten years 167,736 head of cattle, bringing \$2,469,747 to the State, besides what has been used at home and shipped elsewhere. In 1881 eight counties in this State owned 205,714 neat and stock cattle.

Of the 60,000 bales of cotton 24,987 bales were "sea-island;" over one-third more than was produced in all other sea-island localities put together, and worth more than double the price per pound of "short staple." Our sea-island cotton is of such superior quality that the Coat's Thread Company moved down to the cotton fields so as to be sure of a good supply of it. The cotton crop of 1884 brought \$3,000,000, notwithstanding the low prices then ruling. Five hundred thousand crates and barrels of garden truck and 300 car loads of mellons were shipped the same year, and from West Florida alone a business of \$633,388 was done by her fisheries. Jacksonville hotels entertained 60,011 guests, to say nothing of her scores of boarding-houses, and the increase for this season is some 20 per cent. over that of last season, up to this date.

Our timber interests are immense, and count away up among the millions, pine being found in the greatest

quantity, but cypress, live-oak and cedar also being of great importance. Live-oak enough to amount to more than all the honey ever shipped by Florida, all taken together, has been taken from this (Volusia) county in one winter, for Government ship-building. Yes, this has been done several seasons. The cedar for the pencils of the world came from this State. The Faber Pencil Company moved their manufactories into the cedar woods of West Florida to secure their supply of it. Our naval stores, sugar, cigar, sponge, fibre, rice, lemon, pine-apple, cocoanut, grape, strawberry, poultry, and many other industries are of as much importance, and some of them vastly more, than that of bee culture. Verily, Florida need not hang her head in shame for lack of inducements for immigration, even were the orange and honey interests taken from her. Give us energetic men to develop our resources and we will surprise our sister States.

5. Now of her losses by the late freeze: The orange crop was the principal and almost only one really worthy of serious consideration by the people of the State at large. True, most of the tropical trees and fruits in this tier of counties, and farther north, were killed, but they are only grown here mostly for home use. In the lower portions of the State, where they are grown as field crops, they are still alive and flourishing.

Of the 1,000,000 boxes of oranges produced this year, Manager Ives, Bradstreet's, and others of the best informed, estimate that one-half were still upon the trees when the freeze came, and that 90 per cent. of that was lost. These oranges were of best quality, and would, according to the estimate of the editor of the *Florida Times*, have netted the growers \$2.30 per box, or \$1,035,000; add to this the loss to pickers, packers and transportation lines, and still the loss is less than 1¼ million dollars, and this is purely a money loss.

From the same cold wave Texas lost \$3,000,000 by the freezing and starving of her cattle alone, while from the States north of her come reports, not only of loss of property, but harrowing tales of suffering and loss of life, whole families having perished together. And now the papers are full of the great losses in Massachusetts by the floods—much greater losses than ours in value of property—coupled with statements of homes destroyed, and whole neighborhoods of people driven into the streets to subsist on the charity of others. How often are our sympathies excited by such tales coming from the West—often accompanied with the list of those who perished in the flood—the wreck-strewn track of which shows losses amounting to many times that of the Florida orange crop.

Drouth and grasshoppers have paralyzed for years in succession the prosperity of whole States, and brought the cultivators of the soil to want, and in many cases starvation was only prevented by the timely

help from other States that for the time being were more prosperous. The word "cyclone" covers so much of loss and suffering that many people in the West shudder to hear it. Florida residents do not expect eternal exemption from misfortune, but feel thankful that by reason of our climate, many of the more serious ills of the North and West can never reach us here.

We feel the loss of our oranges, but it has increased our confidence in orange culture by showing us that the trees will stand a lower temperature without injury than we had supposed. The great tumble in real estate that many expected, has not come, but on the contrary, land is selling readily at as high prices as before the cold snap, and new groves are being planted in all directions. In Levy county 175,000 acres of land changed hands within 30 days after Florida's great freeze.

Hawk's Park, © Fla.

For the American Bee Journal.

New and Novel Principles.

PROF. A. J. COOK.

MR. EDITOR:—I wish you would repeat the excellent words of Mr. G. M. Alves, found on page 168, which are as follows: "I affirm that the Heddon principles are novel and cannot be found in literature or elsewhere. Let those who deny adduce the proof. The rubbish that has already been lugged forward does not deserve a critical man's attention."

Mr. Editor, I have no interest in this matter at all, only the grand interest of justice and fair play. For shame on us, if we are to repeat the Langstroth outrage! There is no bee-keeper of intelligence in the United States who has the faintest shadow of an idea that this hive, method or discussion would have been brought forward had Mr. Heddon kept silent. Mr. Heddon told me a year ago that he had a method that he believed would revolutionize our business. Why did I have to wait a year to know what it was? Only because it was original with Mr. H., and remained locked up a year longer. If any one honestly believes it, let him say it is a worthless hive and system. But, alack the day! when any considerable number of beekeepers say it is not Mr. Heddon's. Firmly believing Mr. Langstroth to have invented the practical movable frame, I have ever stoutly maintained it; and I as truly believe Mr. Heddon to be the originator of the new system, and if found valuable, as I firmly believe it will be, I shall ever defend his rights.

Agricult. College, ♀ Mich., Mar. 23.

Are you Entitled to a pension? You may be and may not know it. If you examine the Guide and Hand-Book you will soon find out. Thousands of things worth knowing will be found in it. The BEE JOURNAL for 1886 and the Guide Book will both be sent for \$1.30.

Local Convention Directory.

1886.	Time and place of Meeting.
Apr. 2.—Southern Illinois, at Duquoin, Ill.	F. H. Kennedy, Sec., Duquoin, Ill.
Apr. 9.—Progressive, at Macomb, Ill.	J. G. Norton, Sec., Macomb, Ill.
Apr. 10.—Union, at Dexter, Iowa.	M. E. Darby, Sec., Dexter, Iowa.
Apr. 17.—Marshall Co., at Marshalltown, Iowa.	J. W. Sanders, Sec., LeGrand, Iowa.
Apr. 27.—Des Moines County, at Burlington, Iowa.	Jno. Nau, Sec., Middletown, Iowa.
Apr. 30.—Western, at Kansas City, Mo.	P. Baldwin, Sec., Independence, Mo.
May 4.—W. N. Y. and N. Pa., at Randolph, N. Y.	A. D. Jacobs, Sec., Jamestown, N. Y.
May 5, 6.—Texas State, at McKinney, Tex.	B. F. Carroll, Sec., Dresden, Tex.
May 20.—Wis. Lake Shore Center, at Kiel, Wis.	Ferd Zastrow, Sec., Millhome, Wis.
Oct. 19, 20.—Illinois Central, at Mt. Sterling, Ill.	J. M. Hambaugh, Sec., Spring, Ill.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SELECTIONS FROM OUR LETTER BOX

Bees Never Wintered Better.—John Rook, Muscotah, 6 Kans., on March 23, 1886, says:

My bees have wintered finely—never better. They commenced to gather pollen from the soft maples on March 17, and worked nicely for 3 days, but on March 20, on account of a snow storm, they all stopped, and as yet have not returned to duty.

A New Bee-Association.—Ferd Zastrow, Millhome, O., Wis., Secretary of the Association, writes:

The Wisconsin Lake Shore Centre Bee-Keepers' Association was organized at Kiel, Manitowoc County, Wis., on March 25, 1886. The following officers were elected: E. Petermann, of Waldo, President; Jesse Roberts, of Meeme, Vice-President; Ferd Zastrow, of Millhome, Secretary; and Henry Peters, of New Holstein, Treasurer. They will have their first meeting on May 20, 1886, at Koering's Hall, in Kiel, Wis. Any bee-keepers in the counties of Manitowoc, Calumet, Fond du Lac, and Sheboygan, may become members.

Eggs that Produce Queens.—T. F. Kinsel, Shiloh, 3 O., writes:

On page 181, Mr. N. W. McLain correctly quotes Query, No. 185, as intended by me. I omitted the proper writing of "queen's." The question was caused by reading "Dzierzon's Theory"—a wonderful work—and from the answers to it, apicultural savants of the present, it seems, do not agree. I take it that the Query Department is for information, and so I propounded the question for that purpose. I thank Mr. McLain for his article; also others for opinions on the same.

Too Much Swarming.—Alex Rose, Sullivan, 6 Ills., on March 26, 1886, writes:

I had 11 colonies of bees last spring, and now I have 23, all in good condition. I lost one. They went up into sections, ate all the honey, and then starved and froze, with about 25 pounds of honey below. I got about 1,000 pounds of comb honey last year. I am feeding my bees granulated sugar in empty racks and sections. I feed them in the hive in the evening to prevent robbing. My trouble with bees is to keep them from swarming to death. I cut out queen-cells and put back 40 swarms last year. I want a remedy for it.

Surface Measure of Foundation.—T. B. Longbottom, Kettleby, Ont., propounds this question:

Please state in the BEE JOURNAL the superficial measurement, per pound, of comb foundation—both for the breeding apartment and for surplus honey.

[For the brood-chamber it is usually made from 5 to 6 feet to the pound; thin, for surplus honey, measures from 9 to 10 feet to the pound; and the extra thin is from 11 to 12 feet to the pound.—Ed.]

Disinfecting Foul-Broody Hives, etc.—A. W. Osburn, Cuba, W. I., says:

In answer to Mr. Pease's letter, page 137, I would say, in my opinion the roofs are not infected with the foul brood (unless it might be close around where the hives stood). With a coat of paint near where the hives stood, I think I would risk it. Knock the hives to pieces, and boil them well. Do not be afraid of boiling them too much. Put them together again and paint them. Extract all the honey you can, boil it, and keep it to feed to bees when needed. Melt the candied honey with a very little water; the wax will rise to the top, and the honey, with little evaporating, will be ready to feed. Serve all supers that are worth the trouble the same as the hives. The sections will make a bonfire—nothing else. If the work is done well, there will be no further trouble. Do not let your bees, or any one else's, get at your honey before it is boiled.

Uneasy Bees, etc.—G. B. Olney, Atlantic, 9 Iowa, March 25, 1886, says:

Last year I got 306 pounds of extracted honey from one colony of Italians, and sold 271 pounds of it at 16½ cents per pound, and the balance, thirty-five pounds, at 15 cents per pound. In the spring I started with 8 colonies, increased them to 20, by division. Three natural swarms absconded during my absence. I secured nearly 1,200 pounds of honey, 300 of it being comb honey, and the balance extracted. The extracted honey shows no signs of candying yet. It was

gathered from heart's-ease. The interest in apiculture is increasing here, some are getting enthusiastic, some are talking Tennessee as the place to go and make bee-keeping a specialty. I received a postal card on March 19 saying, "Come, come, and tell me what to do with my bees; they are all crazy." I found them, 55 colonies, in a cellar 12x14x6 feet, tiered up one on top the other from the ground up. The brood-chambers were 12x14x14 inches in size. The bottom of the cellar was covered with dead bees; a few hives were polluted at the entrances, and some with a large cluster in front. Many bees were crawling around and were noisy. The temperature was about 45°. I recommended putting out the hives on the summer stands, so as to allow the bees a flight. The hives were quite full of honey when put into the cellar on Nov. 1; some also had brood. No extractor was used; but if it had been I think it would have been better for the bees, as the hives were undoubtedly too full of honey.

Drones Hatched in Worker Comb, etc.—T. J. Bell, Opelousas, 6 La., on March 23, 1886, writes:

Bees in this part of Louisiana did very well last year. With 90 colonies to commence with, I increased my apiary to 106 colonies, and they gathered 9,600 pounds of honey, or nearly 100 pounds per colony. I lost 6 colonies by the heavy frost last January. My colonies have plenty of young bees, and they are still rearing brood fast. Our honey season is a month late this year. Will drones hatch out and develop in worker comb?

[Yes; but the drones will be correspondingly smaller, and Dzierzon claims that they are not fully developed.—Ed.]

A Brood-Chamber in Sections.—A. A. Fradenburg, Port Washington, O., writes:

Six years ago I was called to a place 6 miles from here to transfer some bees, and among other hives there I found two that particularly attracted my attention then, and have very often been the subject of my study ever since. Out of one of them I took the bees and comb at the time; from the other the comb only, as the bees had died the preceding winter. The hives were well made of good lumber, and, by appearances, had been used several years. The brood-chamber was made in sectional parts; I should say that each sectional part was about 14 inches wide, 13 or 20 inches long, and 5 inches high, and the parts were interchangeable as well as reversible, if any one had thought of reversing at that time. Each hive had three sections or tiers on, but of course they had no thumb-screws to clamp the frames together. If I remember, they had stationary frames or strips fastened to hold the top and bottom edges of the combs. I do not know who made them, or whether they were patented.

Discussion and Controversy.—Dr. C. C. Miller, Marengo, Ills., on Mar. 25, 1886, says:

I am glad to know that Bro. Clarke is in such a happy frame of mind, and that the appearance of warlike intent was only the ebullition of an unusual amount of good nature. I beg to assure Bro. Clarke that whatever the connection may imply, I had no thought of him in my mind, nor indeed of any particular individual in referring to either A or B. With regard to the meaning of the words "controversy" and "discussion," I used them as synonymous, and did not object to either, unless of the kind "we do not want." Nevertheless, Bro. Clarke, I think you will see "a shade of difference between the meaning of the words." You might discuss a subject upon which no one held opposing views, but can you imagine a controversy in which the idea of opposition is not involved? If you can, I should like to discuss it with you, and controvert your views, when next we meet.

Strong Colonies.—J. H. Larrabee, Larrabee's Point, Vt., on March 24, 1886, writes:

I have 17 colonies of German bees. To-day I examined 2 colonies in chaff hives on the summer stands, and I found them strong in numbers. One that I could not see had eaten 5 pounds of honey; the other had consumed more honey, but had "rushed the season," having some capped brood. The past winter has been quite favorable for out-door wintering here; bees had several cleansing flights.

Snow-Storm, Reversing Frames, etc.—H. Clark, Palmyra, Iowa, on March 30, 1886, writes:

A snow-storm reached us on Sunday, March 28, at 6 a.m., with an eastern wind, and it snowed 8 inches deep. The bees brought in pollen on March 24 and 25 from the soft maples. My bees have wintered finely. Mr. I. N. Boyles, on page 172, says that to reverse frames it turns the young bees with their backs downward. I would like to hear from others about this.

OUR CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	Club
The American Bee Journal	1.00	1.00
and Gleanings in Bee-Culture	2.00	1.75
Bee-Keepers' Magazine	2.00	1.75
Bee-Keepers' Guide	1.50	1.40
The Apiculturist	2.00	1.75
Canadian Bee Journal	2.00	1.75
Texas Bee Journal	2.00	1.75
The 7 above-named papers	6.50	5.50
and Cook's Manual	2.25	2.00
Bees and Honey (Newman)	2.00	1.75
Binder for Am. Bee Journal	1.75	1.60
Dzierzon's Bee-Book (cloth)	3.00	2.00
Root's A B C of Bee-Culture	2.25	2.10
Farmer's Account Book	4.00	3.00
Guide and Hand-Book	1.50	1.30
Heddon's book, "Success,"	1.50	1.40

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL.
Monday, 10 a. m., April 5, 1886.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Comb is coming forward more freely and prices now are 15-16c. for 1-lb. sections. Extracted is in light demand at 5-7c. California comb honey, in 2-lb. sections, 9-12c.
BEESWAX.—24-28c. per lb. Not much offered.
R. A. BURNETT, 161 South Water St.

NEW YORK.

HONEY.—We now quote: Fancy white comb in 1-lb. paper cartons, 13-14c.; the same in 1-lb. glassed or unglazed sections, 12-13c.; the same in 2-lb. glassed sections, 9-10c., and fair to good in glassed 2-lbs., 8-9c. Fancy buckwheat honey in 1-lb. unglazed sections, 10c.; the same in 2-lb. sections, glassed, 8-9c. Extracted, white, 6-7c.; buckwheat, 5-6c.
BEESWAX.—27-28c.
MCCAUL & HILDRETH BROS., 34 Hudson St.

BOSTON.

HONEY.—One-lb. sections, white clover, 13-15c.; 2-pound sections, 11-13c. Extracted, 6-8c.
BEESWAX.—25 cts. per lb.
BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—White and ex. white comb, 11-14c.; dark comb, 6-8c. White extracted, 5-6c.; amber, 4-4½c.; dark and candied, 3-4c.
BEESWAX.—Quotable at 20-23c. wholesale.
O. B. SMITH & Co., 423 Front Street.

DETROIT.

HONEY.—Stocks are being slowly reduced, some sales reported at 13 and 14 cts., the latter being for best honey in 1-lb. sections.
BEESWAX.—Scarce at 25c.
M. H. HUNT, Bell Branch, Mich.

ST. LOUIS.

HONEY.—Choice comb, 10-12c. Strained, in barrels, 4-5c. Extra fancy of bright color and in No. 1 packages, ¼ advance on above prices. Extracted in barrels, 5-6c.
BEESWAX.—Firm at 22½c. for prime.
D. G. TUTT & Co., Commercial St.

CINCINNATI.

HONEY.—Extracted honey brings 4-5c., and choice comb honey brings 12-15c. in a jobbing way.
BEESWAX.—In demand at 22-25c. for yellow.
C. F. MUTH & SON, Freeman & Central Ave.

CLEVELAND.

HONEY.—One pound sections, 14-15c.; 2-lb. 13c. Extracted, 7-8c.
BEESWAX.—Scarce at 25c.
A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—Sales of comb are good, while extracted is very dull and low. One-pound sections are scarce; stocks of all other grades are well supplied. Calif. 2-lbs. bring 11-12c.; Eastern 2-lbs., 12-13c.; 1-lb., white, 14-15c.; dark, 12-13c. Extracted, 5-6c.; Southern, 3-4c.
BEESWAX.—23c.
CLEMONS, CLOON & Co., cor. 4th & Walnut.

MILWAUKEE.

HONEY.—This market is very poorly supplied with honey of any kind just now, and comb honey in 1-lb. sections, and extracted in barrels or kegs, is not equal to the demand. We quote: Choice white 1-lb. sections, 16-18c. White extracted in kegs or barrels, 7-8c.; dark, in same, 6-7c.
BEESWAX.—Scarce at 25-26c.
A. V. BISHOP, 142 W. Water St.

Honey as Food and Medicine.

To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, \$2.50. Five hundred will be sent postpaid for \$10.00; or 1,000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the beekeeper who scatters them).



Issued every Wednesday by

THOMAS G. NEWMAN & SON,
PROPRIETORS,

923 & 925 WEST MADISON ST., CHICAGO, ILL.
At One Dollar a Year.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

Our New Catalogue of Bee-Keepers' Supplies for 1886 is issued, and will be sent to any one desiring a copy. Send name and address, plainly written, on a Postal Card for it.

Wire Nails have advanced in price, and will be seen by quotations on page 159, last column.

The Western World Guide and Handbook of Useful Information, contains the greatest amount of useful information ever put together in such a cheap form. The printing, paper, and binding are excellent, and the book is well worth a dollar. To any one sending us two new subscribers besides their own, with \$3, for one year, we will present a copy of this valuable book.

Perforated-Zinc.—We have laid in a stock of perforated zinc, for excluding drones and queens, and can fill orders for any size of pieces or quantity at 15 cents per square foot, or in full sheets 3x8 feet at \$2.75 per sheet. We also have pieces cut to fit the Langstroth hive—19½x14½—Price 25 cents each.

Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

Preserve your papers for reference. If you have no HINDER we will mail you one for 75 cents, or you can have one FREE if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

Advertisements.

BEES, bee-hives, imported queens—first-class—**B** cheap. OTIS N. BALDWIN, Clarksville, Mo.
4A17

DISCOUNTS on early orders for Foundation. Samples free. C. W. Phelps & Co., Tiooga Ctr., N. Y.
13W24

200 COLONIES of Choice Italian Bees for Sale. For terms, address
W. J. DAVIS, (box 148),
YOUNGSVILLE, PA.
13W24

BEE Hives and Sections—Send to **HERR & BEULE**, manufacturers, Beaver Dam, Wis., for price lists. Good materials. Low prices. 10A264

SEED POTATOES—Dakota Red and other new varieties—cheap. Send for price-list.
O. H. MYATT, Shenandoah, Page Co., Iowa.
13W24

TESTED Queens, \$2; untested, \$1. Wax-extractor, \$3. Other supplies. Send for Circular.
O. F. BLEDSOE, Union Apiary, Grenada, Miss.
14W16

FOR SALE—Italian and Cyprian Bees and Queens (in any quantity), Extractors, Bee-Books, etc. Address, **OTTO KLEINOW**,
1141st (Opp. Ft. Wayne Gate), DETROIT, MICH.

FOR SALE—80 Colonies Italian Bees in good condition on 7 Langstroth frames, in shipping-boxes, \$4.50; or shipped in Parker Chaff Hives, \$6.50 per colony. Purchasers for the above can, if they prefer, send their Cash to T. G. Newman & Son, Chicago, Ill.
Wm. Amelang, Ottumwa, Wapello Co., Iowa.
13W24

The Queen-Rearing Establishment
OF F. J. DOKOUPIL,
VIGAUN, OBERKRRAIN, AUSTRIA.

Apr. May. Jun. July. Aug. Sep. Oct.
Kralner Queen, \$2.00 \$1.75 \$1.50 \$1.25 \$1.00 \$1.00
Italian Queen, 2.25 2.25 2.00 1.75 1.50 1.50
Syr. or Cyp. Q'n. 5.00 5.00 5.00 5.00 4.50 4.50
Ditto, home-bred, 3.00 3.00 2.75 2.75 2.50 2.50
We will send Queen-bees, by mail, postpaid, and guarantee them to be of the PURE RACES, at the above mentioned prices, for each queen. 9C3t

\$3.50 CHEAP! \$3.50

DURING May I will sell 2-frame (Langstroth size) Nuclet Colonies with Extra Tested Italian Queen, for \$3.50 each. For further information, address, **F. W. MOATS**, THE BEND, OHIO.
14W14

WANTED—From 100 to 200 Colonies of Bees in a good location somewhere in the North. State prices and kind of hives.
Address, **A. C. ARDER**,
HEBRON, Boone Co., Ky.
14W14

90 Colonies of Bees for Sale.

ITALIANS and **HYBRIDS** in improved side I and top boxing hives. Also all the appliances for running an apiary. On a pleasantly located farm of 30 acres in good baswood range (which will be rented if desired). Good house, barns, honey-house, &c. Scenery fine, location healthy, 12 miles south of Syracuse.
M. B. WARNER, 12 S. Salina St., Syracuse, N. Y.

200 COLONIES
OF
ITALIAN BEES

FOR SALE—In Langstroth hives, wired foundation frames. Very low. Also 300 of our improved Sectional Honey-Cases used with or without separators. Circular free.

A. J. & E. HATFIELD,
SOUTH BEND, IND.
13W14

DOWN, DOWN, DOWN!
We Come!

ON all kinds of **APIARIAN FIXTURES**, we quote lower prices in our 1886 Circular than we ever have before, on all kinds of practical hives now in use, on Metal Corners and all-wood frames and the V-groove Sectional Smokers and Extractors. In fact everything pertaining to Bee-Culture. Be sure and send for our Circular before purchasing your Supplies for the season.

BRIGHT BROS.,
14W14
MAZEPPA, MINN.

REDUCED PRICES ON SUPPLIES.

One-pound Sections, \$4.50 per 1,000. Two-pounds, \$5.00 per 1,000.

Langstroth Frames, ready to nail, per hundred, \$1.25.

Comb Foundation is subject to a discount of 5 per cent. until May 1.

Standard and Improved Langstroth Hives, cut and ready to nail, are reduced from 5 to 30 cents per hive, as will be noticed in the following table of New Prices:

STANDARD LANGSTROTH HIVES (14x18 inches inside).										
Quantity.	Numbers	1	2	3	4	5	6	7	8	9
5 hives, or more, each.	90.	\$1.25	\$1.60	\$1.45	\$1.75	\$1.20	\$1.70	\$2.00	\$1.30	\$1.30
10 hives, or more, each.	88.	1.23	1.58	1.43	1.73	1.18	1.68	1.98	1.28	1.28
25 hives, or more, each.	85.	1.20	1.55	1.40	1.70	1.15	1.65	1.95	1.25	1.25
50 hives, or more, each.	80.	1.15	1.50	1.35	1.65	1.10	1.60	1.90	1.20	1.20
100 hives, or more, each.	75.	1.10	1.45	1.30	1.60	1.05	1.55	1.85	1.15	1.15

IMPROVED LANGSTROTH HIVES—With Manipulating Side.										
Quantity.	Numbers	1	2	3	4	5	6	7	8	9
5 hives, or more, ea.	\$1.30	1.65	2.00	1.90	2.20	1.65	2.10	2.45	1.65	1.65
10 hives, or more, ea.	1.28	1.63	1.98	1.88	2.18	1.63	2.08	2.43	1.63	1.63
25 hives, or more, ea.	1.25	1.60	1.95	1.85	2.15	1.60	2.05	2.40	1.60	1.60
50 hives, or more, ea.	1.20	1.55	1.90	1.80	2.10	1.55	2.00	2.35	1.55	1.55
100 hives, or more, ea.	1.15	1.50	1.85	1.75	2.05	1.50	1.95	2.30	1.50	1.50

For description and prices of these hives nailed, we refer our customers to our Catalogue for 1886, pages 4 & 5. These prices for material in the flat, take the place of those on p. 6.

THOS. G. NEWMAN & SON, 923 & 925 West Madison St., CHICAGO, ILL.



I ARISE to say to the readers of the **BEE JOURNAL**, that

DOOLITTLE

has concluded to again rear **QUEENS** for sale during 1886, at the following prices:

Untested queen..	\$1 00
5 " "	4 00
10 " "	7 50
20 " "	14 00

Untested queens reared by natural swarming, each,..... \$1 50
5 Do. 6 25
10 Do. 11 00
20 Do. 20 00

Tested queen..... 2 00
5 Do. 7 00

Tested Queen, reared by natural swarming... \$3 00
5 Do. 10 00
Do. 1885 rearing, sent in May or after, each... 5 00
Extra selected, 2 years old, each..... 10 00
Circular free, giving full particulars regarding each class of queens. Address,

G. M. DOOLITTLE,
BORODINO, Onon. Co., N. Y.
14W14

ITALIAN BEES AND QUEENS,
Plymouth Rock Eggs and Rabbits.
Send for Circular to, **C. WEEKS**,
14E4t
CLIFTON, TENN.

EMPTY COMBS.

I WILL exchange 600 to 800 Empty Combs (mostly in wired frames) in Simplicity hives, for Basswood or White Clover Honey. Some one can get a bargain. Also good Sweet Clover Seed at 5 cts. per lb. per Express. **Queens, 3-Frame Nuclet and Full Colonies, a Specialty.** Write for particulars to, **E. T. FLANNAGAN**,
14W14 (Box 955), Belleville, St. Clair Co., Ill.

BEES! IN Two-Story BINGHAM HIVES, \$5.00.
L. C. KENT, WATSON, MICH.
14W14

Vandervort Comb Fdn. Mills,
Send for Samples & Reduced Price-List.
Atf **J. VANDERVORT**, Laceyville, Pa.

LOOK HERE!

100 COLONIES of **ITALIAN BEES** at \$6.00 each. 50 fine Brown Leghorn hens at \$1.00 each.
Eggs for Hatching—White L. Brown Leghorns and S. S. Hamburgs, at \$1.50 for 13 eggs; R. P. Games, at \$2.00 for 13 eggs; Rouen Ducks, at \$2.50 for 13 eggs. Address,
12A13t **WM. LOSSING**, Hokah, Minn.

DON'T READ THIS

UNLESS you want to buy **BEES** at reduced prices. Address, **CHARLIE W. BRADISH**,
13W24 **GREIG**, Lewis Co., N. Y.

60 Colonies of Bees for Sale.

FOR particulars, call on or address,
A. L. EDWARDS, Skaneateles, N. Y.
13W14

SOLD!

HAVING Sold the 100 Colonies of Bees offered in the March Numbers of this JOURNAL, I am now booking orders for **Nuclet Colonies and Queens Only**. Also **Bee-Keepers' Supplies**. Send for 1886 Price-List. Address,

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